

ABSTRACT

A system for controlling a switch reluctance machine is provided. The system includes multiple phases located in the switch reluctance machine, each phase having multiple machine coils. Each machine coil is independently connected to a positive side switch circuit and a negative side switch circuit. Each positive side switch circuit is in electrical parallel connection with the other positive side switch circuits, and configured to control the flow of current through the machine coil to which it is connected. Similarly, the negative side switch circuits are connected in electrical parallel and configured to control the flow of current through the machine coil to which they are connected. The positive side and negative side switch circuits may be provided in a buck boost configuration or two half bridge configurations.